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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Continuation Sheet

Applicant's arguments filed 1 December 2008 have been fully considered but they are not persuasive.

First, the Applicant primarily argues that the rejections are flawed and must be withdrawn for the reasons that Miyata et al. ('128) fails to suggest concrete examples that satisfy the range of the steel composition recited in the claims. The Applicant further argues that Miyata et al. ('128) is different from the invention with respect to the characteristics of hardness and carbide precipitation, including the heat treatment for insuring the claimed characteristics.

In response to the Applicant's first argument, the lack of a concrete example having a composition within the ranges claimed by the Applicant in Miyata et al. ('128) does not necessarily mean that the composition would not have been suggested to one having ordinary skill in the art based on the entire disclosure. MPEP 2123 I. In response to the Applicant's second argument, although the Applicant argues that the characteristics of hardness and carbide precipitation would be different in Miyata et al. ('128) than that of the instant invention, the Applicant has provided no evidence/comparison data to support the conclusion that the resulting hardness and carbide precipitation would be different in Miyata et al. ('128) than that of the instant invention. MPEP 2145.

Second, the Applicant primarily argues that Hara et al. ('465) fails to establish a prima facie case of obviousness since this reference is different from the invention in

terms of the characteristics of carbide precipitation, the hardness, and the heat treatment process for insuring the carbide precipitation and hardness.

In response to the Applicant's second argument, although the Applicant argues that the characteristics of hardness, carbide precipitation, and the heat treatment process for insuring the carbide precipitation and hardness would be different in Hara et al. ('465) than that of the instant invention, the Applicant has provided no evidence/comparison data to support this conclusion that the resulting hardness and carbide precipitation would be different in Hara et al. ('465) than that of the instant invention. MPEP 2145.

Third, the Applicant primarily argues that it is error to conclude that the processing of Miyata et al. ('128) is the same as that producing the claimed steel's characteristics; Miyata et al. ('128) is completely different from the invention in terms of the production process and this means that the Examiner cannot conclude that the claimed hardness and carbide amount would be expected; the Applicant cites paragraphs [0074-0076] to make it clear that tempering above 400°C should be avoided; the Applicant points to col. 5 lines 1-38 of Miyata et al. ('128) to show that there is a heat treatment after quenching that entails a tempering at a temperature in the range of 550°C to the Ac_1 point or a heat treatment at a temperature in the dual phase region, or alternatively a combination of both; and the Applicant states that the Examiner cannot reasonably take the position that the claimed hardness values and carbide amount in grain boundaries of not more than 0.5 volume % are present.

In response to the Applicant's arguments, a portion of the Applicant's cited

section of Miyata et al. ('128) reads:

"The above heat treatment performed after quenching is an important to achieving the advantageous characteristics of the present invention. The following three types of methods (1), (2), (3) **can be** applied in accordance with the invention." (emphasis added)

The language "can be" is optional language and one having ordinary skill in the art knows that tempering is conducted to increase toughness. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to omit any tempering in the event that increased toughness would not have been required or desired. MPEP 2144.04 II (A). Additionally, the Examiner notes that in the Examples provided in Tables 2 and 3 of the instant specification, there is air cooling followed by tempering at 600°C which is not the same as the lower tempering temperatures as presented in Miyata et al. ('128).

Fourth, the Applicant primarily argues it is error to assume that the claimed composition and equation are obvious from Miyata et a. ('128) because Miyata et al. ('128) fails to concretely disclose chemical compositions of martensitic stainless steel as found in claims 1 and 3.

In response to the Applicant's argument, the lack of a concrete example having a composition within the ranges claimed by the Applicant in Miyata et al. ('128) does not necessarily mean that the composition would not have been suggested to one having ordinary skill in the art based on the entire disclosure. MPEP 2123 I. Furthermore, with respect to satisfying the equations in the claims, the normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to

determine where in a disclosed set of percentage ranges is the optimum combination of percentages. MPEP 2144.05 II.

Fifth, the Applicant primarily argues that Table 3 of Miyata et al. ('128) shows an achievable tensile strength of 732 MPa or less and using an equivalent hardness table taken from the website www.gordonengland.com.uk determines an equivalent hardness for this tensile strength to be 18.2 HRC, which is well below the lower limit of 30 HRC.

In response, the Examiner notes that the Applicant's characterization of the Examples does not demonstrate a limit as to the highest achievable hardness of Miyata et al. ('128) because disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. MPEP 2123 II.

Sixth, the Applicant primarily argues that it is clear that Hara et al. ('465) sees it as

essential to perform the final tempering at a temperature in the range of 500°C to the Ac_1 point so that based on this step, a preceding heating in a dual phase region and preceding tempering are contemplated and Hara et al. ('465) cannot be said to meet the limitation regarding the carbide amount and hardness since the processing of Hara is not the same as that employed by the inventors to attain this objective.

In response, the Examiner notes that the Examples provided in Tables 2 and 3 of the instant specification present Examples with water quenching followed by tempering at 600°C and do not consider the lower tempering temperatures as presented in Hara et al. ('465).

Seventh, the Applicant primarily argues that an achievable tensile strength of 824 MPa is shown and converting this to HRC hardness using the website www.gordonengland.com.uk results in a hardness of 23.5, which is well below the lower limit of 30 HRC.

In response, the Examiner notes that the Applicant's characterization of the Examples does not demonstrate a limit as to the highest achievable hardness of Miyata et al. ('128) because disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or non-preferred embodiments. MPEP 2123 II.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jessee Roe whose telephone number is (571) 272-5938. The examiner can normally be reached on Monday-Friday 7:30 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Roy V. King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/John P. Sheehan/
Primary Examiner, Art Unit 1793

JR